

Vegetation mapping in 2017

Sources: Alice Hadley Friends of Skokholm and Skomer report, Bray; Skomer Botanical survey 1979 II. Quadrat point locations:- Maps and Measurements.

“Whilst it certainly was not an easy job, looking for small plot markers using compass bearings often in a screaming gull colony or in adverse weather conditions, it certainly gave me the opportunity to visit parts of the island I would not normally have access to. I also noticed my botanical skills improve massively which was one of my main personal goals for the year. And the sense of accomplishment when I did find a new plot marker made the whole job worthwhile. Hopefully, now that I have a better idea of how to find these plot markers, I can help next year by trying again before the bracken and bluebells grow and make the job just that bit more difficult!”

Background and Introduction

270 Vegetation plots were set up in 1979 by Graham Bray, in order to allow routine monitoring projects for the vegetation communities to be developed. In 1998 a reassessment for choosing suitable vegetation plots was undertaken by Lizzie Wilberforce, and the number reduced to 76. This was due to many being lost in the 19 year gap between. The purpose of these designated plots are to monitor long term trends in vegetation communities. None of these sites were revisited until 2015 when Alice Hadley carried out a project to rediscover the vegetation plots, and conduct surveys on them. In total 18 were found and surveyed. Using the bearings provided by L. Wilberforce, I attempted to locate as many of the remaining plots as possible.

Method

The vegetation plot markers are yellow plastic squares with a metallic disk on the top center. Furthermore, in recent years, a yellow topped metal pole was placed two meters south of the southwest corner to aid in their finding. A description of how to lay out a quadrat is shown in Fig 1.

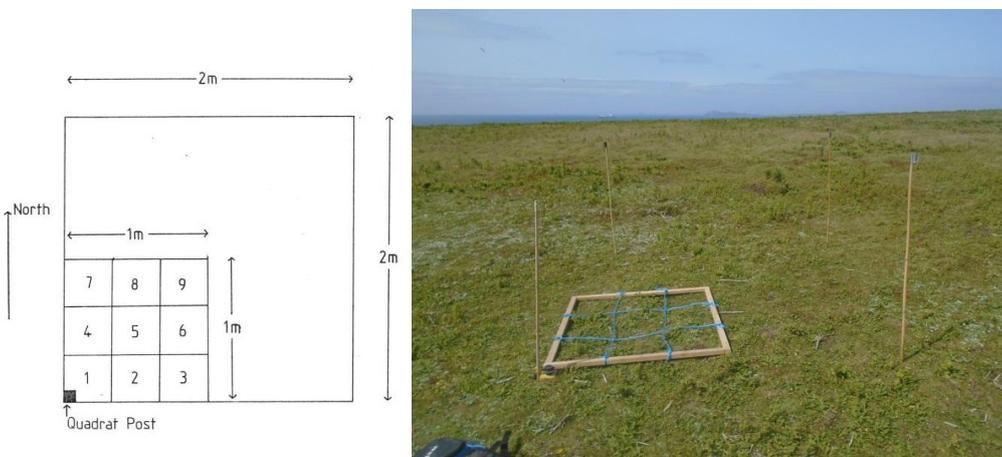


Fig 1. Plot set up

A 1x1m quadrat, divided equally into nine squares was placed in the south-west corner to estimate species dominance, and to calculate a percentage frequency and to assign domin values. This was calculated by dividing the number of squares on a quadrat a species is found growing in, by the total number of squares in the quadrat (9) \times 100. Then based on the result a domin value was assigned using a pre-existing table.

Due to the relatively small nature of the vegetation markers many factors can complicate the process of finding them.

- 1) Vegetation in late spring proved to be too tall and often completely smothered the markers rendering them invisible (Fig 2).
- 2) Any located in Lesser Black-backed gull (*Larus fuscus*) colonies were also unfound due to the priority of minimizing disturbance, resulting in a very limited search time.
- 3) Due to the burrowing activities of Manx Shearwaters (*Puffinus puffinus*) and Rabbits (*Oryctolagus cuniculus*), there is a strong likelihood many were also buried.



Fig 2. (Please note, few have an associated metal pole adjacent)

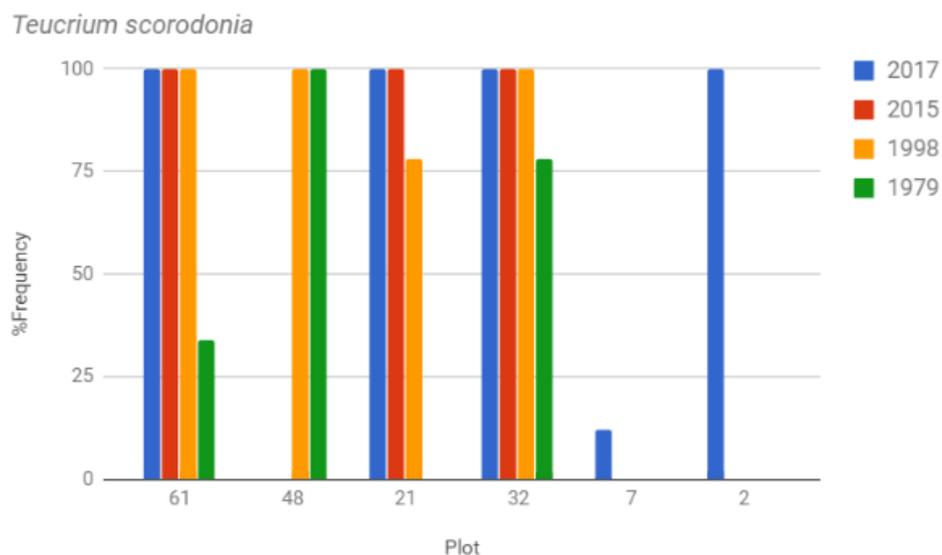
Results

Comparison was made between the percentage coverage of five notable or dominant species of plant in 2017, 2015, 1989 and 1979 to observe trends in their dominance in the plant communities in the vegetation plots. Tables below show frequency of each species in 9 quadrat sections giving an idea of changes in abundance and distribution.

Teucrium scorodonia (Wood sage)

General trend: Increase

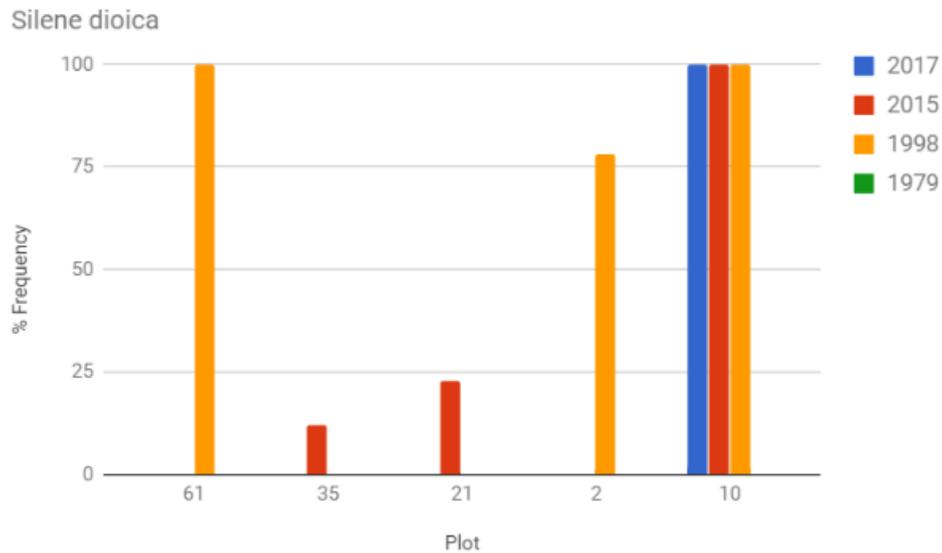
A general increase of *Teucrium scorodonia* has been observed from 1979 in 6 of the relevant vegetation plots. This species has emerged in two plots in which it was historically absent. Although in one plot (48) it has become absent.



***Silene dioica* (Red campion)**

General trend: Decrease

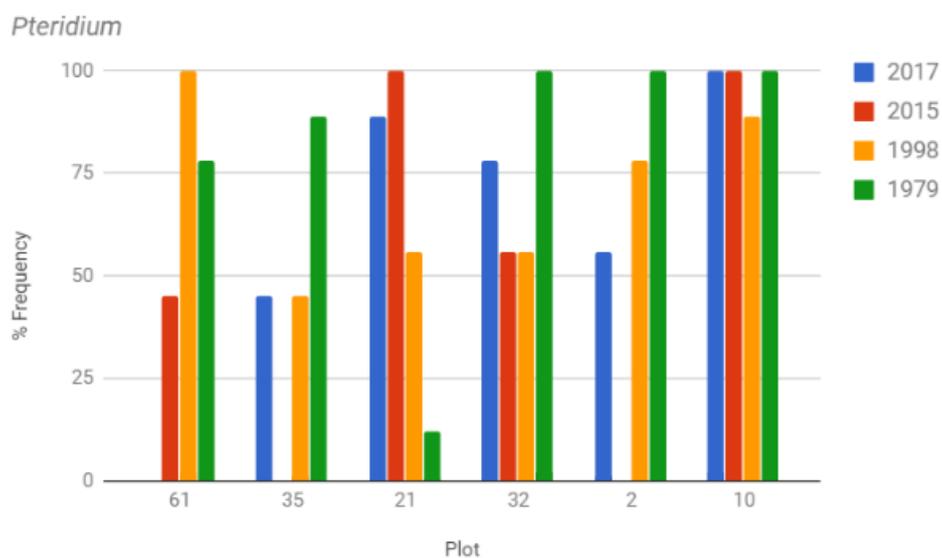
This species is no longer present in 4 of 5 relevant plots (plots where the species has been present historically, resulting in observable trends). Only one plot showed no decline, where the percentage cover remained constant, at 100%



***Pteridium* (Bracken spp)**

General trend: Fluctuating population, No trend

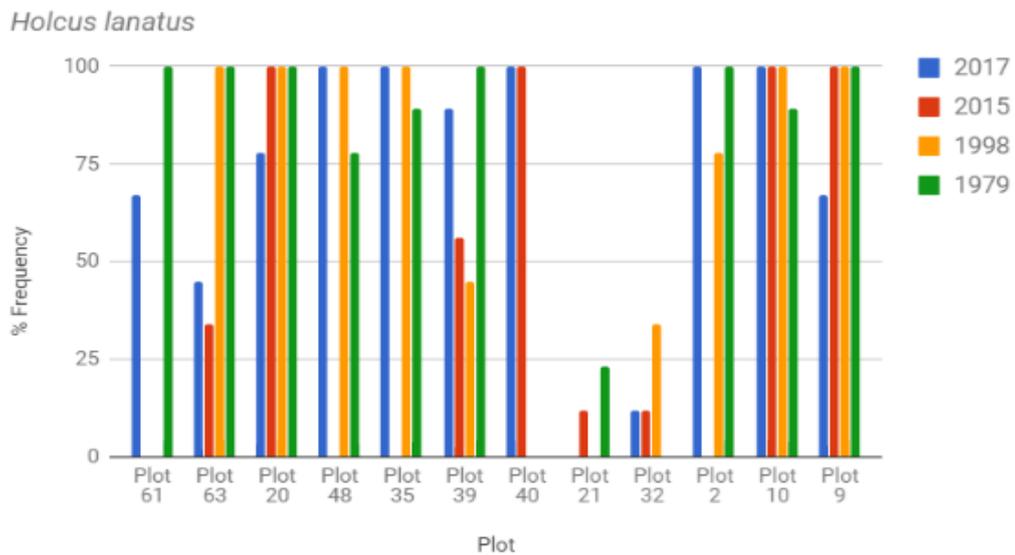
In two plots the percentage cover of *Pteridium* has drastically reduced since 1979 and in two plots the percentage cover has remained fairly consistent at around 70-100%. While plot 21 has shown an increase from 10% to 80% since 1979 and in plot 61 the species has become absent. No overall trend can be observed from this data, for the whole island.



Holcus lanatus (Yorkshire fog)

General trend: Decrease

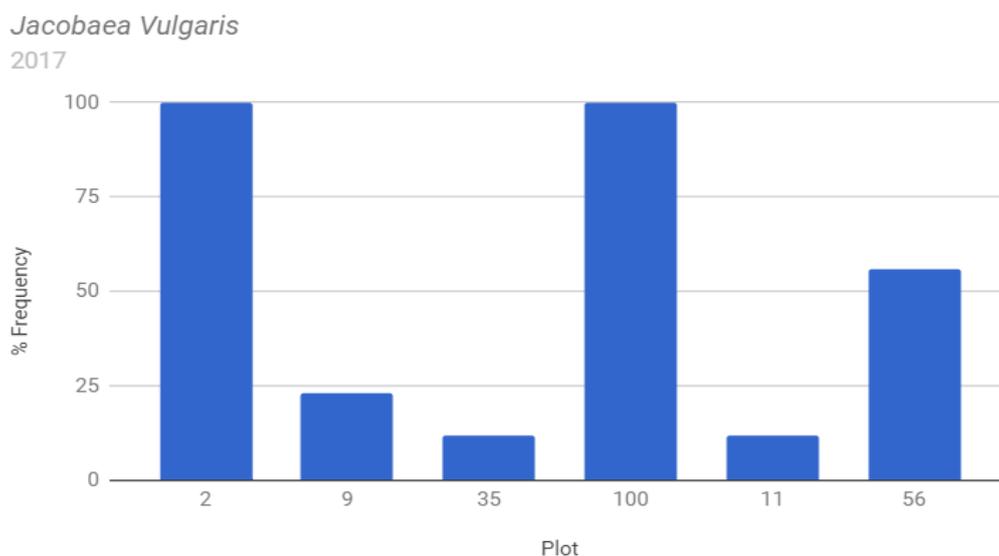
Since previous surveys in 1979 the majority of plots (six out of 10 in total) have shown a decrease in percentage cover in those quadrats. Three plots showed an increase in percentage coverage of *Holcus Lanatus* and one plot showed no significant change compared to historical surveys.



Jacobaea vulgaris (Ragwort)

General trend: Increase

This is the most notable species to have undergone an increase in 2017. It is abundant in vegetation plots where it has not been observed in any previously.



Thomas Faulkner: Skomer Island Long Term Volunteer